

JP 03-01-00

CLAIMS

1. An injection molding method wherein a molten resin material, which is injected into a cavity defined by a fixed die and a movable die via a runner provided in the fixed die, is introduced from a gate provided in the fixed die and is molded, characterized in that:

when the molten resin material is being charged into the cavity through the resin reservoir from the gate, a cut punch, which is provided in the side of the movable die that confronts the gate through a resin reservoir formed by recessing the fixed die toward the gate and which is movably provided so that the cut punch is inserted into the resin reservoir (so as) to be in slidable contact with the resin reservoir, has a distal end thereof extending in a moving direction thereof that is toward the resin reservoir of the cut punch, and the distal end is located between the resin reservoir and the cavity at such a position as to open a communicating portion that allows the resin reservoir and the cavity to communicate with each other so that the molten resin material is introduced into the cavity ~~via the resin reservoir~~; and

when an inner portion of the resin material that is present in the resin reservoir is still molten and a portion of the resin material thereof that is direct contact with the cooled dies is gradually solidified after the molten resin material has been charged into the cavity and the resin reservoir, the cut punch moves toward the gate so that the cut punch is inserted into the

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5 resin reservoir, whereby the cut punch not only closes the communicating portion while forcibly pushing the still molten resin material present in the resin reservoir back into the gate, but also cuts the resin material at the communicating portion so that a resin molded product formed in the cavity is separated from a resin solidified portion formed in the resin reservoir.

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10 2. An injection molding method according to claim 1, wherein a plurality of resin molded products are molded by a plurality of the cavities, the resin reservoirs and the cut punches.

3. An injection molding method according to claim 1 or 2, wherein that the runner is a hot runner.

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15 4. An injection molding method according to claim 3, characterized in that the hot runner has a valve gate structure, in which a valve gate is closed to close the gate after the cut punch has moved.

20 5. An injection molding method according to any one of claims 1 to 4, characterized in that a resin molded product having an opening is molded by a resin reservoir and the cut punch inserted into the resin reservoir, the resin reservoir being provided so as to correspond to a shape of the opening of the resin molded product.
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5 the gate is connected to the cavity through a resin reservoir
formed by recessing the fixed die toward the gate;

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the gate, but also cuts the resin material at the communicating portion so that a resin molded product formed in the cavity is separated from a resin solidified portion formed in the resin reservoir.

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7. An injection mold according to claim 6, comprising plural pairs of the cavities, the resin reservoirs and the cut punches.

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8. An injection mold according to claim 6 or 7, wherein the runner is a hot runner.

9. An injection mold according to claim 8, wherein the hot runner has a valve gate structure.

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10. An injection mold according to any one of claims 6 to 9, wherein the injection mold is used to mold a resin molded product having an opening and has a resin reservoir and a cut punch inserted into the resin reservoir, the resin reservoir and the cut punch being provided so as to correspond to the opening of the resin molded product.

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11. An injection mold according to any one of claims 6 to 10 wherein a depth as viewed in a moving direction of the cut punch in the resin reservoir is 1.5 to 10 times an opening distance of the communicating portion.

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12. An injection mold according to any one of claims 6 to 11,
comprising an undercut portion on the distal end of the cut punch, *Imp*
the undercut portion serving to hold the resin solidified portion *mult*
formed in the resin reservoir at the time of mold opening.

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